



Implementation Programs


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AN ELEMENT OF THE GENERAL PLAN OF THE
CITY AND COUNTY OF SAN FRANCISCO

UNIVERSITY OF CALIFORNIA

Planning Department of the City and County of San Francisco
April 1997



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COMMUNITY SAFETY

Implementation Programs

AN ELEMENT OF THE GENERAL PLAN OF THE
CITY AND COUNTY OF SAN FRANCISCO

PLANNING DEPARTMENT
CITY AND COUNTY OF SAN FRANCISCO

April 1997

COMMUNITY SAFETY ELEMENT IMPLEMENTATION PROGRAMS

INTRODUCTION

The purpose of the *Community Safety Element of the General Plan* is to reduce future loss of life, injuries, property loss, social and economic disruptions and environmental damage from natural or technological disasters. It contains a set of Objectives and Policies arranged in six categories.

This document is a companion to the *Community Safety Element*. It describes current and proposed programs to implement the *Element*, as well as related plans and programs. It is organized by Objective, with the programs that address each Objective grouped together. For the full text and explanation of the Objective and Policies, refer to the *Community Safety Element of the General Plan*.

RELATIONSHIP TO OTHER PLANS AND PROGRAMS

Emergency Operations Plan

In addition to the *Safety Element*, the City is required to adopt and maintain an *Emergency Operations Plan*. Recently, a new *Emergency Operations Plan*

was completed by a task force with representatives of City departments and other agencies with responsibilities during emergencies. The task force is coordinated by the San Francisco Office of Emergency Services. This process and its results are described in more detail in the Summary Background Report to the *Community Safety Element*.

The *Emergency Operations Plan* describes specific response actions that will be taken by the emergency response agencies, and other City departments in their support, at different levels of emergency, and provides for a coordinated response to save lives and protect property. The *Community Safety Element* contains broader policies to reduce negative effects over a longer time frame, that will need to be carried out by a wide range of City agencies. The *Emergency Operations Plan* implements many of the emergency response policies of this *Community Safety Element*. Both documents address issues related to the recovery from a disaster: the *Emergency Operations Plan* establishes programs and procedures to assure the resumption of daily activities, while the *Community Safety Element* establishes policies to guide the longer-term reconstruction of the City. Both documents recognize that a more detailed plan is needed to coordinate efforts to guide the long-term recovery of the City, its

residents, and its economic base after a major disaster. Because the *Community Safety Element* and the *Emergency Operations Plan* were prepared simultaneously, attempts were made to coordinate their content to avoid duplication or contradictions.

Hazard Mitigation Plan

The Hazard Mitigation Plan is required by federal law as a condition of receiving hazard mitigation grants after a declared disaster. The City prepared a Hazard Mitigation Plan after the 1989 Loma Prieta earthquake. It was developed by an inter-departmental team coordinated by the Chief Administrative Officer, and adopted by the Board of Supervisors in 1990. It contained background information similar to the *Community Safety Element*, and a list of earthquake mitigation projects proposed by City departments. The Hazard Mitigation Plan was updated, to include the projects proposed to reduce hazards from high wind and storms, such as occurred during the winter of 1995-1996, which was a declared disaster in San Francisco. That update is expected to cover the declared disasters of the January 1997 storms.

Seismic Hazards Mapping Act

In 1990 the California Legislature enacted the Seismic Hazards Mapping Act. As a result, the California Division of Mines and Geology (CDMG) is currently mapping Seismic Hazards Studies Zones (SHSZs) throughout California. A preliminary map showing areas with a potential for liquefaction during an earthquake was released for local review in October 1996. (Map 4) As of February 1997, the State Geologist expects to issue official maps and guidelines on April 1, 1997. These maps are posted with the Recorder, the Assessor and at the Planning Department, and they are part of the *Community Safety Element*.

Within the SHSZs, when development projects are proposed, the proponent is required to conduct a site investigation and prepare a geotechnical report as-

sessing the nature and severity of the hazard, and suggesting appropriate mitigation measures. When approving any project in a SHSZ, the City will use the information and recommendations included in the report to achieve a reasonable protection of public safety. The City must take the information contained in the maps into account when preparing the Safety Element, or when adopting or revising land use ordinances.

OBJECTIVE 1

IMPROVE THE COORDINATION OF CITY PROGRAMS THAT MITIGATE PHYSICAL HAZARDS, HELP INDIVIDUALS AND ORGANIZATIONS PREPARE FOR AND RESPOND TO DISASTERS, AND RECOVER FROM THE IMPACTS OF DISASTERS

Implementation Action 1.1

Staff with expertise in policy development, program administration, project management, and public involvement, as well as experience in dealing with state and federal funding agencies, is needed to develop coordinated and comprehensive hazard mitigation, preparedness, and recovery programs. This staff should be located within the executive branch of City government, and have the responsibility for developing comprehensive implementation strategies for mitigation, preparedness and recovery. This will enable the City to provide a systematic, ongoing commitment and funding to these programs, and facilitate communication with the state and federal agencies that have important disaster-related roles.

Implementing Agencies: Mayor's Office of Emergency Services, others as needed

Status: ongoing

OBJECTIVE 2

REDUCE STRUCTURAL AND NON-STRUCTURAL HAZARDS TO LIFE SAFETY, MINIMIZE PROPERTY DAMAGE AND RESULTING SOCIAL, CULTURAL AND ECONOMIC DISLOCATIONS RESULTING FROM FUTURE DISASTERS.

Implementation Action 2.1

Buildings built to current code provisions are expected to resist damage from minor earthquakes, experience some non-structural damage from moderate earthquakes, and incur non-structural and some structural damage (but not collapse) in major earthquakes. San Francisco adopts the State Building Code with modifications which concern the resistance to ground-shaking and hillside construction, as well as some long-standing local provisions. The San Francisco Building Code is adopted by the Board of Supervisors and implemented by the Department of Building Inspection (DBI), which reviews building plans, and inspects buildings under construction to insure that the approved plans and codes are followed. The DBI will continue to convene Structural Advisory Committees for complex projects, to provide engineering peer review on a case-by-case basis, when the Department believes that it is useful.

Implementing Agency: Department of Building Inspection, Board of Supervisors

Status: ongoing

Implementation Action 2.2

The San Francisco Building Code is adopted by the Board of Supervisors and implemented by the Department of Building Inspection (DBI), which reviews building plans, and inspects buildings under construction to insure that the approved plans and codes are followed. The City will continue to periodically review and update the building code to incorporate the latest knowledge and standards of seismic design in both structural and non-structural building elements.

Implementing Agencies: Department of Building Inspection, Board of Supervisors

Status: ongoing

Implementation Action 2.3

Because of the importance and the variability of local soil conditions, when projects are proposed on sites in areas with greater susceptibility to ground failure, DBI requires the preparation of a geotechnical report by a licensed civil engineer. The foundations and structural systems must then be designed to respond to the hazards. Integrating soil factors into design will be further formalized under the California Seismic Hazards Mapping Act of 1990. The regulations implementing the Act require that the local agency review of the developers' studies be "conducted by a certified engineering geologist, or registered civil engineer, having competence in the field of seismic hazard evaluation and mitigation." This increased level of review by appropriate professionals will help assure that hazards resulting from soil conditions will be adequately mitigated.

Implementing Agency: Department of Building Inspection

Status: ongoing

Implementation Action 2.4

The City has undertaken two programs to reduce earthquake hazards presented by some existing buildings. Enacted in 1969, the Parapet program requires private property owners, even with no other remodeling plans, to reinforce older parapets and roofline appendages. These features, if not securely anchored to the building, pose a life safety threat during earthquakes. This program is largely complete.

Unreinforced masonry buildings (UMBs) have a record of poor performance in earthquakes. The City is requiring the retrofit of UMBs. As of late 1994, there were about 1750 UMBs in the City, concentrated in the North of Market/Civic Center area,

Chinatown, Downtown, and the Bush Street Corridor. The City's program requires the retrofit of privately owned UMBs by 2006, depending on the use of the building, its location in areas of poor soil, or in parts of the City with high population densities. The retrofit program is administered by the Department of Building Inspection. A loan program to assist owners is administered by the City Administrator.

The Parapet Program and the Unreinforced Masonry Building Program will continue. The Unreinforced Masonry Bond program will continue to be a source of financing for owners.

Implementing Agencies: Department of Building Inspection, City Administrator

Status: ongoing

Implementation Action 2.5

The Building Inspection Department is considering extending the Hazardous Buildings Survey Program (which now includes unreinforced masonry buildings) to identify and inventory other potentially hazardous existing buildings in San Francisco. It would include an inventory of non-ductile concrete and tilt-up buildings, including the numbers and locations of these buildings, the number of residential units they contain, and the types and numbers of other uses. This information will be used to assess the risk posed by these buildings and to develop programs to reduce such risk.

Implementing Agency: Department of Building Inspection

Status: under consideration

Implementation Action 2.6

The San Francisco Department of Building Inspection is considering developing a program to encourage owners to secure older wood-frame houses to their foundations and strengthen soft stories, targeting the types of buildings common in San Francisco.

Implementing Agency: Department of Building Inspection

Status: under consideration

Implementation Action 2.7

The Earthquake Safety Program, administered by the San Francisco Department of Public Works, Office of Capital Resource Management, has identified the most hazardous City-owned buildings. Needed work has been prioritized, with higher priority assigned to "facilities containing critical functions, unreinforced masonry buildings, high occupancy buildings, those with an ornate, monumental style of architecture which will be difficult to repair or replace when damaged, the severity of the seismic hazards." San Francisco voters passed bond measures in 1987, 1988, 1989 and 1990 to fund seismic retrofits of City Buildings. General Fund Departments of the City own about 550 buildings, with replacement value estimated in 1992 at over \$4 billion. About 190 buildings have had seismic improvements, including repair of damage from the 1989 earthquake. Work is continuing on about 30 buildings. Other buildings will be considered for future bond measures.

Implementing Agency: Department of Public Works

Status: ongoing

Implementation Action 2.8

Achieving increased life safety and historic preservation involves a number of approaches such as (1) the application of more flexible code standards for qualifying buildings (for example the State Historic Building Code); (2) financial incentives such as loan programs and (3) linking retrofit requirements to transfer of development rights. Projects that involve transfers of development rights from buildings which are historically valuable, but unlikely to survive a large earthquake can include measures to increase the chances that the building will continue as an historic resource well into the future. The City uses the Mills Act, a State program which allows cities to reduce property taxes in exchange for the preservation and/

or restoration of historic properties. Mills Act contract projects may present opportunities to reduce the likely future impacts of earthquakes on historic structures. The City can encourage and facilitate use of the federal tax credits for qualified projects to rehabilitate historic structures.

Implementing Agencies: Department of Building Inspection, Planning Department, Landmarks Preservation Advisory Board

Status: on a project-by-project basis.

Implementation Action 2.9

The programming of the City's Capital Improvement Program shall continue to place a high value on the minimization of earthquake hazards.

The City Planning Commission and other City agencies, when making decisions that will influence investments in buildings, either individually, or as part of a larger land use proposal, shall encourage the mitigation of structural hazards. For example, the planning process for Mission Bay included assessments of the site, which is largely on filled land, by geotechnical consultants. The resulting plan incorporated recommendations from technical experts about how to minimize the earthquake risks. The City is currently planning for the reuse of Treasure Island, located on unengineered fill in the Bay. The first phase of that planning process included a consultant study evaluating the earthquake risks resulting from soils conditions to current and future users. This information will influence the future uses of the site. This information is informing the planning process.

Implementing Agencies: Department of Public Works, Planning Department, Department of Building Inspection

Status: ongoing

Implementation Action 2.10

Lifeline strengthening programs by the Water Department and the Department Public Works will continue. Additional funding sources should be sought to accelerate these programs. The City will support lifeline strengthening programs by regional, State and private lifeline service providers and identify and support coordination of effort.

Implementing Agencies: Department of Public Works, Water Department, others as appropriate

Status: ongoing

Implementation Action 2.11

The City will study potential code amendments to encourage reduction of gas-related hazards. For example, when wood frame buildings are retrofitted by being bolted to their foundations, water-heater restraints should be improved. Another City or utility action could involve the provision of public information and support of private efforts to restrain, immobilize and reduce hazards of gas-fired appliances in residential buildings and to encourage natural gas shutoff earthquake sensors.

Implementing Agency: Department of Building Inspection

Status: under consideration

Implementation Action 2.12

The Department of Public Health will continue to enforce the Permitting program to identify and regulate businesses handling acutely hazardous materials, and to require that they prepare and submit Risk Management and Prevention Plans. The Department will continue to require the registration of all business users of hazardous materials, and to have this information available to the Fire Department for use when responding to emergencies. The Fire Department maintains documentation of hazardous materials storage locations and buildings containing asbestos in each of its emergency response districts.

Implementing Agencies: Department of Public Health, Fire Department

Status: ongoing

OBJECTIVE 3

ENSURE THE PROTECTION OF LIFE AND PROPERTY FROM DISASTERS THROUGH EFFECTIVE EMERGENCY RESPONSE. PROVIDE PUBLIC EDUCATION AND TRAINING ABOUT EARTHQUAKES AND OTHER NATURAL DISASTERS AND HOW INDIVIDUALS, BUSINESSES AND COMMUNITIES CAN REDUCE THE IMPACTS OF DISASTERS.

Implementation Action 3.1

The Office of Emergency Services, in cooperation with community-based organizations, is developing an educational program to assist people to make their homes and businesses safer. It will include information about reducing structural and non-structural hazards, preparing family plans, stocking extra water, food and personal needs. Community-based organizations provide both expertise and effective avenues of communication, especially with ways of reaching those who speak languages other than English. The Office of Emergency Services has recently added a neighborhood coordinator to its staff to coordinate and implement an educational outreach program to carry out this policy.

Implementing Agencies: Mayor's Office of Emergency Services, others as needed

Status: ongoing

Implementation Action 3.2

The Fire Department operates a preparedness program designed to help people respond to disasters when the usual emergency responders are overwhelmed. The program, Neighborhood Emergency Response Teams (NERT), consists of five three-hour

classes that cover first aid, small fire extinguishment, light search and rescue techniques, damage assessment, utility control (when and how to shut off gas, water and electricity), and team operations. Classes are offered to neighborhood groups, City departments, and businesses, and are taught by fire-fighters. The program emphasizes the importance of neighbors working together and looking out for one another. As of March 1997, about 4500 people in San Francisco neighborhoods, and 1500 people in employment-based groups and government offices, have completed the training.

Implementing Agency: Fire Department

Status: ongoing

Implementation Action 3.3

The Office of Emergency Services, as part of its educational mission, is developing a program to encourage and assist City departments and employees develop plans that will make them more effective in the post-disaster period.

Implementing Agency: Mayor's Office of Emergency Services

Status: ongoing

Implementation Action 3.4

Response agencies including the Fire Department, the Police Department, the Department of Public Health, the Department of Public Works and others have prepared plans for disaster response.

Implementing Agencies: Fire Department, Police Department, Department of Public Health, Department of Public Works, Mayor's Office of Emergency Services, others as appropriate

Status: ongoing

Implementation Action 3.5

A task force with representatives of City departments and other organizations with emergency responsibilities, coordinated by the Mayor's Office of Emergency Services, recently updated the City's *Emergency Operations Plan*. It will be periodically tested in exercises. It will be updated in response to the lessons learned during the exercises and as circumstances change. The EOP task force continues to meet to assure ongoing communication and coordination.

Implementing Agency: Mayor's Office of Emergency Services

Status: Plan recently completed, maintenance is ongoing

Implementation Action 3.6

The Mayor's Office of Emergency Services maintains an Emergency Command Center which will serve as the to direct and coordinate the City's response after a disaster.

Implementing Agency: Mayor's Office of Emergency Services

Status: ongoing

Implementation Action 3.7

The Fire Department is maintaining and monitoring the Auxiliary Water Supply System, the Portable Water Supply System, cisterns, Bay water suction devices and fire boats are being maintained and monitored to assure adequate water for fighting fires.

Implementing Agency: Fire Department

Status: ongoing

Implementation Action 3.8

The Department of Parking and Traffic is developing an Emergency Route System, which will be part of the Department of Public Works departmental plan. This

system will identify a system of roads which will be the highest priority for clearing or repair by DPW, and for traffic direction by the Department of Traffic and Parking. It will include, to the extent possible, roads without structural deficiencies or on poor soils, and which are less vulnerable to blockage. It will link, to the extent possible, critical facilities such as hospitals, etc. It will link to the regional emergency network including the airport, ferry terminals and roads to San Mateo County.

The Association of Bay Area Governments is developing a regional post-disaster transportation plan.

Implementing Agency: Department of Parking and Traffic

Status: Plans in development

OBJECTIVE 4**ASSURE THE SOUND, EQUITABLE AND RAPID RECONSTRUCTION OF SAN FRANCISCO FOLLOWING A MAJOR DISASTER.***Implementation Action 4.1*

After a major disaster, the City will apply the policies of the *General Plan* as guidance for post disaster recovery, and will be involved in developing short term and long term plans for the reconstruction of damaged areas, with the involvement of residents, businesses and owners.

Implementing Agency: Planning Department.

Status: after a major disaster

Implementation Action 4.2

The City should undertake the preparation of a Recovery Plan, involving City departments with responsibilities for the physical and economic health of the City. The Recovery Plan should address Inter-departmental coordination, public involvement, and coordi-

nation with state and federal agencies. It should include policies and programs to expedite repairs and reconstruction where appropriate, assure provision of adequate (and potentially large) amounts of interim housing and related services, expedite planning, financing and construction of adequate (and potentially large) numbers of replacement housing units, changes to Planning Code provisions regarding nonconforming uses and buildings, business resumption assistance, including mediation with federal and state programs and the provision of alternative space, guidance for long-term economic recovery, policies for guiding planning and reconstruction of areas in which a large proportion of the buildings and infrastructure are destroyed, including the most effective use of the City's redevelopment powers, and plans for the rapid resumption of normal government services.

The Recovery Plan should be updated as necessary to reflect changing conditions, and changes in the state and federal regulations that will influence the post-disaster recovery financing.

Implementing Agencies: Planning Department, Mayor's Office of Emergency Services, Redevelopment Agency, Department of Building Inspection, Department of Public Works, Mayor's Office of Housing and Mayor's Office of Community Development and other organizations and agencies as needed.

Status: under consideration

OBJECTIVE 5

SUPPORT SEISMIC RESEARCH THROUGH APPROPRIATE ACTIONS BY ALL PUBLIC AGENCIES, AND APPLY NEW KNOWLEDGE AS IT BECOMES AVAILABLE.

Implementation Action 5.1

The California Department of Conservation, Division of Mines and Geology (CDMG) is preparing maps of Seismic Hazards Study Zones in California counties with significant hazards. CDMG has con-

sulted with City staff as the maps are being developed. City agencies, especially those whose staff have an expertise in engineering, construction, and land use, are assisting this project.

Implementing Agency: Planning Department, Department of Public Works, Department of Building Inspection.

Status: First maps expected to be finalized in April 1997. Mapping of the rest of the liquefaction hazard zones and landslide hazard zones depends on the budget and priorities of the CDMG.

Implementation Action 5.2

City actions to contribute to ongoing research include post-disaster data collection and the placement of strong-motion instruments to measure earthquake vibrations in cooperation with the California Strong Motion Program. While no reliable earthquake prediction or warning system yet exists, the City will monitor progress in this field.

Implementing Agency: City Departments as appropriate.

Status: ongoing

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